

# NEXT GENERATION PRECISION PRESSURE TRANSDUCER



Highly Accurate Over a Wide Temperature Range

Honeywell's Next Generation Precision Pressure Transducer (PPT2) combines proven silicon sensor technology with microprocessor-based signal conditioning to provide an extremely smart pressure transducer. Available in a compact, rugged design, the PPT2 has many software features that support a wide range of digital and analog applications.

## FEATURES & BENEFITS

### HIGHLY ACCURATE

- Accuracy is guaranteed over the whole operating temperature range.
- Simplifies System Design  
No additional signal compensation needed to gain the benefits of a very accurate sensor.

### SMART, DIGITAL SENSING AND CONTROL

- Efficient Data Acquisition.  
Network up to 89 units.

### VERSATILE AND CONFIGURABLE

- Works with existing and new systems 0-5V analog and either RS-232 or RS-485 digital output.
- Optimizes Output  
User-configurable pressure units, sampling, update rate.
- Flags Problems  
Internal diagnostics set flags, indicates errors.

### USER SELECTABLE SOFTWARE FEATURES

- Baud Rate, Parity Setting, Continuous Broadcast, ASCII or Binary Output, Sensor Temperature Output (°C), Deadband, Sensitivity, Tare Value, Configurable Analog Output.

### APPLICATIONS

- Secondary Air Data
- Altimeters
- Engine Testing
- Flight Testing
- Meteorology
- Flow and Pressure Calibrators
- Instrumentation and Analytical Equipment
- Process Control
- Research and Development

### NEXT GENERATION PPT2 ADVANTAGES

- Available with Extended Temperature Range -55°C to +110°C.
- Designed for excellent EMI immunity.
- High speed data rates up to 1000 samples per second.
- Command set is backward compatible with the legacy PPT.
- RoHS and CE compliant.

# SPECIFICATIONS

## PERFORMANCE

<b>Total Error Band<sup>(1)</sup></b>	See Ordering Information
<b>Temperature Range</b>	Operating: -40 to 85°C Standard (S), -55 to 110°C Extended (E) Storage: -50 to 100°C Standard (S), -60 to 125°C Extended (E)
<b>Sample Rate<sup>(3)</sup></b>	1.0 ms to 42.67 min; minimum response delay 2 ms
<b>Resolution</b>	Digital: Up to 0.001% FS, Analog: 0.1 mV typical (15+ bits)
<b>Long Term Stability</b>	0.025% FS per year typical

## MECHANICAL

<b>Pressure Units<sup>(3)</sup></b>	atm, bar, cmwc, ftwc, hPa, inHg, inwc, kg/cm <sup>2</sup> , Kpa, mBar, mmHg, MPa, mwc, psi, user, pfs
<b>Media Compatibility</b>	Suitable for non-condensing, non-corrosive, and non-combustible gases
<b>Weight</b>	4.4 oz. (125 gm) without fittings

## ELECTRICAL

<b>Output<sup>(3) (4)</sup></b>	RS-232 Digital with 0-5V Analog, RS-485 Digital with 0-5V Analog
<b>Power Requirements</b>	Supply Voltage: 6.0 to 34 VDC, Operating Current: 50 mA maximum
<b>Baud Rate<sup>(3)</sup></b>	User configurable between 1200 and 115200 bits/sec
<b>Bus Addressing<sup>(3)</sup></b>	Address up to 89 units
<b>Connector<sup>(5)</sup></b>	MIL-C-26482, Shell Size #10, 6-pin, #20 size

## ENVIRONMENTAL

<b>Mechanical Shock</b>	RTCA/DO-160E Sec. 7, Cat. B: up to 20 G 3 sec/direction
<b>Thermal Shock</b>	RTCA/DO-160E Sec. 5, Cat. A, -55 to 110°C
<b>Vibration</b>	RTCA/DO-160E Sec. 8, Cat. S, Curve W: 20G, 10-2000 Hz
<b>Overpressure<sup>(2)</sup></b>	3X FS
<b>Burst Pressure<sup>(2)</sup></b>	3X FS
<b>EMC Directive</b>	Compliant, Directive 2004/108/EC, Standards BS EN 61326-1:2006
<b>RoHS</b>	Compliant

(1) Total Error Band is the sum of worst case linearity, repeatability, hysteresis, thermal effects and calibration errors over the operating temperature range. Full scale for differential ranges is the sum of + and - ranges. Calibration is traceable to NIST.

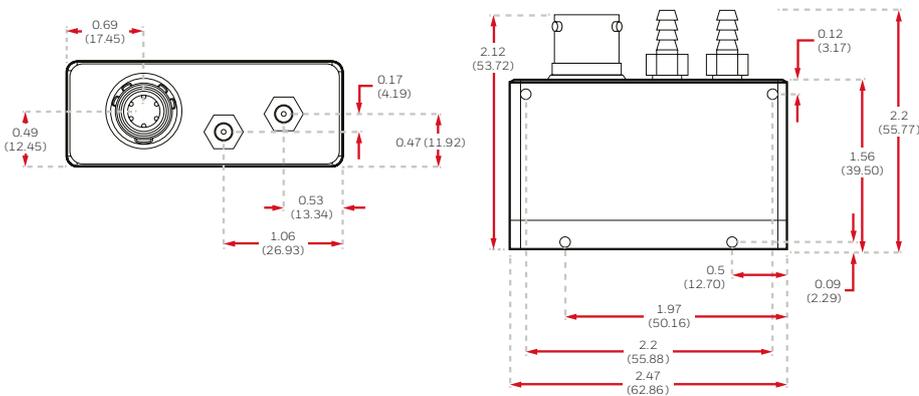
(2) Exposure to overpressure will not permanently affect calibration or accuracy of unit. Burst pressure is the sum of the measured pressure plus the static pressure and exceeding it may result in media escape.

(3) User configurable.

(4) Recommended load impedance of 100 k-ohm or greater.

(5) Mating Cable Connectors can be purchased from many electronics distributors, generic P/N is MS3116F10-6S for MIL-DTL-26482H compliant parts (not RoHS-compliant); RoHS-compliant versions are also available.

## PPT2 DIMENSIONS



Mounting holes:  
4-40 UNC-2B x 0.500 4 places.

SIGNAL NAME	
A	RS-232(TD)/RS-485 (B)
B	RS-232(RD)/RS-485 (A)
C	Case Ground
D	Common Ground (GD)
E	DC Power In
F	Analog Output

# ORDERING INFORMATION

## PPT2 PRECISION PRESSURE TRANSDUCER

### FULL SCALE PRESSURE RANGE

	Absolute	Gauge	Differential	Digital Total Error Band <sup>(1)</sup>	Analog Total Error Band <sup>(1)</sup>
0002	N/A	2 PSI <sup>(1)</sup>	±2 PSI	±(0.075%FS + 0.20% Abs. Reading)	±(0.090%FS + 0.20% Abs. Reading)
0005	N/A	5 PSI	±5 PSI	±(0.075%FS + 0.20% Abs. Reading)	±(0.090%FS + 0.20% Abs. Reading)
0010	N/A	10 PSI	±10 PSI	±0.075%FS	±0.090%FS
0015	15 PSI	N/A	N/A	±0.075%FS	±0.090%FS
0020	20 PSI	N/A	N/A	±0.075%FS	±0.090%FS
0050	50 PSI	N/A	N/A	±0.075%FS	±0.090%FS

TYPE	P1 PRESSURE	P2 PRESSURE
A	Absolute	0 (vacuum) to FS
G	Gauge	Reference to FS
D	Differential	+FS to -FS rel. to P2

P1	PRESSURE CONNECTION (ABSOLUTE, GAUGE, DIFFERENTIAL)
F	Filter (blocks debris)
G	Stainless Swagelok (1/8 inch female)
K	Stainless Swagelok-compatible (1/8 inch male)
R	Brass barbed, right angle (1/8 inch ID tubing)
W	Brass barbed (1/8 inch ID tubing)
X	Brass Swagelok (1/8 inch female)

P2	PRESSURE CONNECTION (GAUGE, DIFFERENTIAL)
F	Filter (blocks debris)
G	Stainless Swagelok (1/8 inch female)
K	Stainless Swagelok-compatible (1/8 inch male)
R	Brass barbed, right angle (1/8 inch ID tubing)
W	Brass barbed (1/8 inch ID tubing)
X	Brass Swagelok (1/8 inch female)
N	Not Applicable (Absolute)

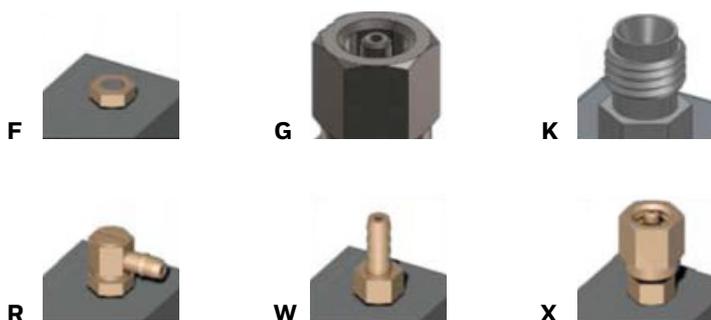
OUTPUTS	
2V	RS-232 digital, 0-5V analog
5V	RS-485 digital, 0-5V analog

OPERATING TEMPERATURE RANGE	
S	Standard: -40 to 85°C
E	Extended: -55 to 110°C

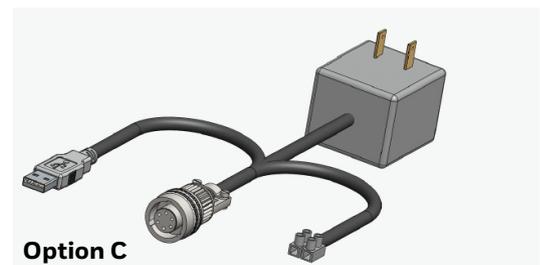
- OPTIONS	
C	Power Supply/Data Cable (See Below)
E	Certificate of Conformance
F	Calibration Certificate

**PPT2 0020    A    W    N    2V    S    -EF**

### PRESSURE CONNECTION



### OPTIONS



**ESD (electrostatic discharge) sensitive device**

Damage may occur when subjected to high energy ESD. Proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

**EOS (electrical overstress) sensitive device**

Damage may occur when subjected to EOS. Do not exceed specified ratings to avoid performance degradation or loss of functionality.

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FUTURE  
IS  
WHAT  
WE  
MAKE IT**

